FAIRFAX COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
AIR MONITORING AND TRENDS ANALYSIS
10777 MAIN STREET, SUITE 115
FAIRFAX VIRGINIA 22030

DIRECTIVE 2
MONITORING AND REPORTING REQUIREMENTS
FOR ACTINOLITE/TREMOLITE SOIL SOURCES

I. Monitoring Requirements

A. The monitoring and sample analysis will be conducted by competent personnel and closely supervised by an experienced individual certified with NIOSH 582 course training or equivalent.

B. Air monitoring samples will be collected.
   1. They may be perimeter and/or area monitoring samples.
   2. They are to be representative samples of the emissions downwind of the work activities.
   3. They may be obtained at any on-site, downwind location, up to and including the point demarcating public areas.
   4. They will be analyzed by the NIOSH 7400 method. Confirmatory transmission electron microscopy (TEM) may be used as an option.
   5. Overloaded air monitoring sample filters that can not be analyzed by the NIOSH 7400 method will be archived. A qualitative report as to the presence or absence of fibers along with a reason for the inability to analyze the filters will be included in the Project Report. **NOTE:** Overloaded samples will be considered an indication of excessive fugitive dust resulting from inadequate dust control.

C. Project Reports of the perimeter, area, and personal monitoring results will be submitted to this office.
   1. Reports will be submitted in a timely fashion.
   2. Reports concerning violations to Directive 1 will be submitted immediately upon discovery.

II. Project Report Requirements.

A. A written description of the work activities.
   1. Methods used to investigate for the presence and forms of actinolite/tremolite minerals at the site.
   2. Work activities with the potential to generate fugitive dust emissions.
   3. Evaluation of the site to identify potential problem areas including such features as areas of high emission potential, areas likely to produce maximum off site impacts, etc.
   4. Daily weather and soil conditions at the construction project, to include but not limited to wind direction, wind speed, precipitation, and approximate soil moisture.

B. Diagram of the Construction Project.
   1. The diagram is at least an 8 by 11 inch copy of the project site drawings.
   2. Label diagram to include perimeters.
   3. Identify the work activities.
   4. Label the air monitors.
   5. Indicate wind direction during air monitoring.

C. Air Monitoring Results.
   1. Sample date.
   2. Monitor location.
   3. Date of last calibrations for samplers.
   4. Interpretations of data and exposure potential.
   5. Explanation of voided samples to include the possible cause, and a qualitative report as to the presence or absence of fibers (Non-NIOSH 7400 methods allowed).
   6. Sample results:
      a. Asbestos concentration in fibers per cubic centimeter of air, reported to two decimal places.
      b. Duration of sample in minutes.
      c. Rate of sample flow in liters/minute.

D. Violations to DIRECTIVE 1 detected by air monitoring.
   1. Suspected cause for each violation.
   2. Best estimate of duration and magnitude of fiber release, areas exposed, and supporting rationale.
   3. Actions taken to prevent similar violations in the future.

III. The 24-hour average standard is calculated by:

$$\frac{(W \times S) + (2 \times MDC) + \{[24 \text{ Hrs.} - (W + 2 \text{ Hrs.})] \times 0.005 \text{ F/CC}\}}{24 \text{ Hrs.}}$$

Where:

W = Work Day in Hours.
S = Sample results in Fibers per Cubic Centimeter.
MDC = Mean Decay Period Concentration (Concentration decays to background levels during the two hours following the end of the workday).

$$= \frac{\text{Start Concentration} + \text{End Concentration}}{2} = \frac{S + 0.005}{2}$$

(NOTE: Since $2 \times MDC = 2 \times \frac{(S + 0.005)}{2} = S + 0.005 \approx S$

S may be substituted for 2 X MDC as a simplification.)

0.005 F/CC is the approximate background concentration.